

10337

June R. P. Ross

Field Notes

Book 1

DOCUMENT NO. 838
Invertebrate Paleontology
Yale Peabody Museum

1 of 2

Central States Ordovician-Silurian

May 12, 1995, to May 25, 1995.

doc 838
Need
strat
summary
columns (to scale)
with rock
units and
sample #s
on it.

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Stouffer failed to
recognize that there were
2 Beccataculites horizons
- one in upper Stewartville
& also in Cummingsville

from
iv.
8225
2060

Twin Cities Brickyard
is shallower & closer to
source of silt which
has dropped out due to
shallowing

Comments by
R. Sloan

On U.S. 52 Wagner Hill Section
5/2/95 4 1/2 miles S. of Cannon Falls. From



5/12/95.

- ② Sagar Roadcut 0.1 mile S. of intersection
of Goodhue roads 9 + 14 on Rd. 14
Photo B + W - part, part of section. ~~E.~~ side of
south end of roadcut on County Blvd 14
Photo C.S. #3 outto
Photo C.S. #4 middle part

Photo C.S. #5 showing disturbed bedding at
top of Hidden Falls Mb.

Road cuts on both sides of road.
East side shows better overall
features but 2 ironstained horizons
are more clearly seen in W. side cut.
E. side has some large blocks that
have fallen down. See notations
on graphic sect. Fig. 20.14 Sloan, (ed.) 1987
(we had lunch at this site).

Glenwood fm is a deepwater clastic unit with pyrite + lime nodules
with a "corrosion" zone at base.

Platteville is a complex of two to probably 5 or 6 packages
separated by pyritic "corrosion" zones. I take the
corrosion zones here to be deep water exhumed surfaces of
mineral deposition but not sediment deposition -
beneath at least two corrosion zones there are beds of

On U.S. 52 Wagner Hill Section
5/21/95. 1/4¹/₂ miles S. of Cannon Falls. From
S. end of town at junction with

① West side of U.S. 52 ^{3 found bones} 1 color slide + 1 b+w white
Photograph. Hammer head on Unit
no. ~~4~~ 5. Break in slope is prob. shale
at top of Unit 7. C.S. #1. B+W #1. Sherwood Mbt.

Up higher in section C.S. #2. B+W #2.
Top of Sherwood Mbt. & overlying Wall Mbr
of Prosser Fm.

Mile Post 93 close to top of section
B+W #3 just a few paces N. of M.P. 93

Cyclicity is about 1' to 2 1/2' through most of section
argill. limestone with very silty shaly breaks - no
sequence boundaries as such, but there is a change
in amount of argillaceous material entering the
depositional system, purer ls upwards.

St. Paul Minn \square 1:250,000 pencilled location

Leverson & Gierke's Wagner Hill section
in R. Sloan, ed, 1987. Minn. Geol. Survey
Rept. of Invest. 35, Fig. 9.3

5/12/95

burrowed-filled sediments. I suspect the thickness of the beds ~~depth~~ = depth of burrows. Some graded bedding in Carmona member; some pyritized fossil fragments including brachs (Rapiclionella found on one slab). Plattville + lower Dacota sh are "deep water" deposits of turbidites (calcsiltite) and omission surfaces (pyritic), burrowed muds, etc.

(Note: Town of Sogn is just W. of intersection of county roads 9 + 14 on County Rd. 14.)

Up hill (E.) of intersection of county roads 9 + 14 on County Road 9, there is an old X in higher units of Prosser Fm. It may start at top of Cummingville. Burrowed lime mud.

This "Plateau" is apparently on Prosser.

5/12/95 County Road 7, Olmsted Co.

(3A) 5/12/95 Cummingsville Type Section

x - entrance to private property (Xmas
tree on line)

Blue gray shale forms quarry
floor. O X face as depicted in Fig. 20.7
(Sloan, ed. 1987). V. burrowed shale - all
churned up

D+W 450-044 ^{Foot face of} Quarry ^{of road} Faces from North

D+W 450-046 photo. Roadcut - east side of
road. Top of Cummingsville ~~the~~ Fm.,
Fairplay Mbr - saw tooth weathering

The Mortimer Mbr of Cummingsville as shown in graphic section in
Sloan et al 1987 has more of a "saw tooth" outcrop than indicated.
Need 1" cycles throughout type Cummingsville - Becker Mbr has 4 (or 5?)
"cycles" that have almost no silty breaks, rest has siltstone.

To get to Cummingsville, go South US 52
from Rochester, MN, ^{passing Chaffee} and turn on
County Rd 7, and travel ^{ca} 3.4 miles to
roadcut

See Sloan (1987, p.

5/12/95.

* Continue S of Co. rd 7 to intersection w. Co. Rd 30
turns right & go up hill to section
(3B) Cummingville Annex. County road 30

B&W # 7 photo. Glenwood, Peatonica &
Plattville. lower part of rd cut

B&W # 8 photo. Middle part of rd cut.

General view of otep. Glenwood fm at
bottom

Reichen bentonite is close to top of road cut
Unconformity (Seq Boundary) at (or near) top of Glenwood,
then Peatonica is a transg. system track, deep water
Plattville, W² Carbonates (debris) coming from SE?
and shale (Decorah) from northwest ???

Peatonica is difficult to identify
- thin shale & 1st thin late band
overlying shale

6/28/98 revised
* location - 1998 data. Came north
from Iowa on IL 552, & took MN 30
west for about 4 miles; road cut
west of intersection & ^{1/2 mile} ~~1/2 mile~~ across
bridge

Late afternoon/evening. After following roads
we came to
(4) Masonic Park, Fillmore Co, MN 5/12/95

8 or 9 cycles of 5-6' (1st one at
creek level is 6 ft.)

1"-1 1/2" shaly/silty breaks are yellow weathering -

Weathered upper 3 cycles break down into 1' foot ledges -

Ls. is banded in lighter & slightly dark light gray "clings"

The location is just a little bit east of

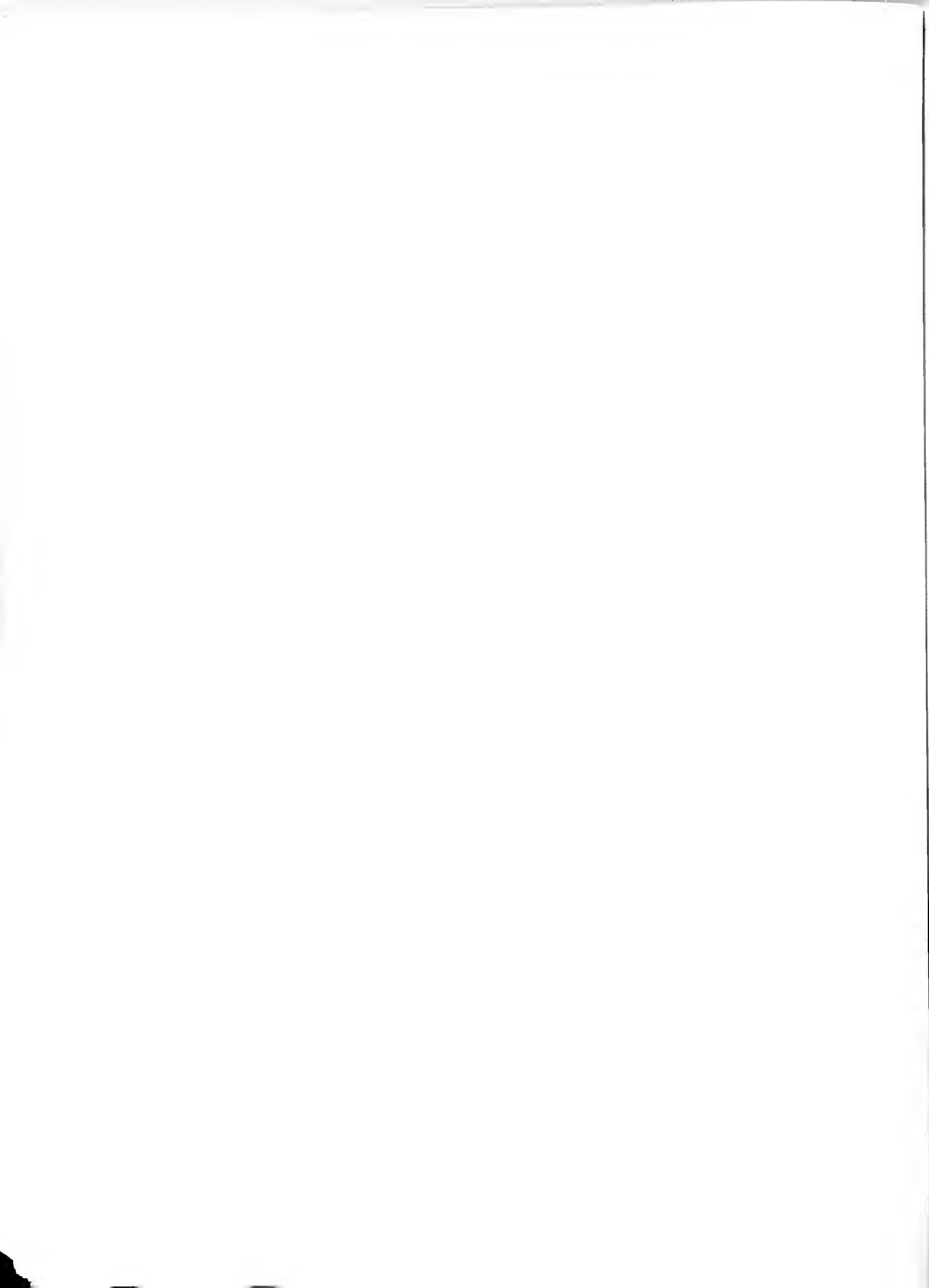
3-4 miles N of Spring Valley

Photo B4 W & possibly a 2nd photo
at Masonic Park.

Went south of Masonic Park about 4 miles and

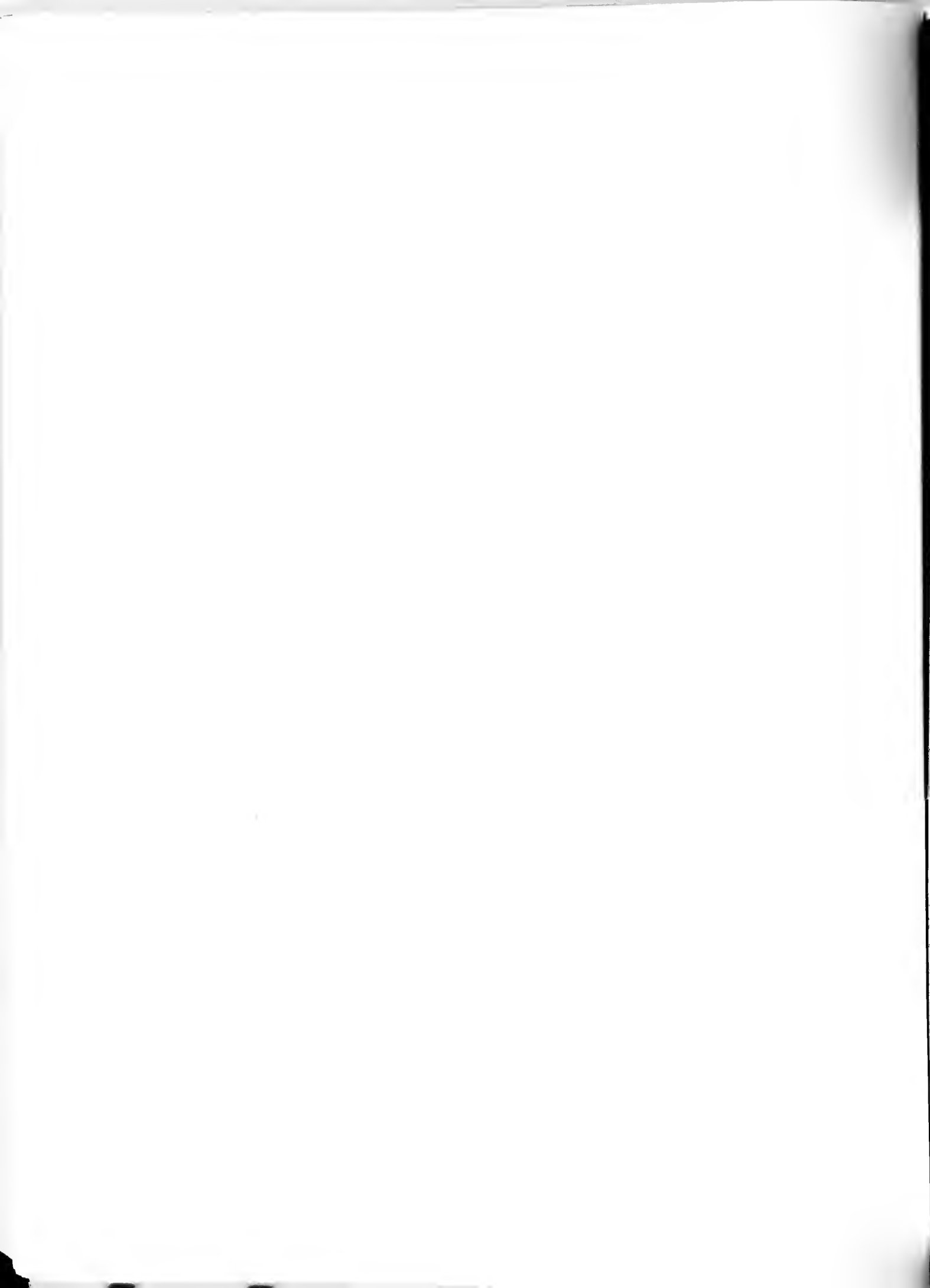
explored the roads in and out of the creek

valleys which exposed some of the Stewart Sh.
Ls. and some of the upper Cummingsville.



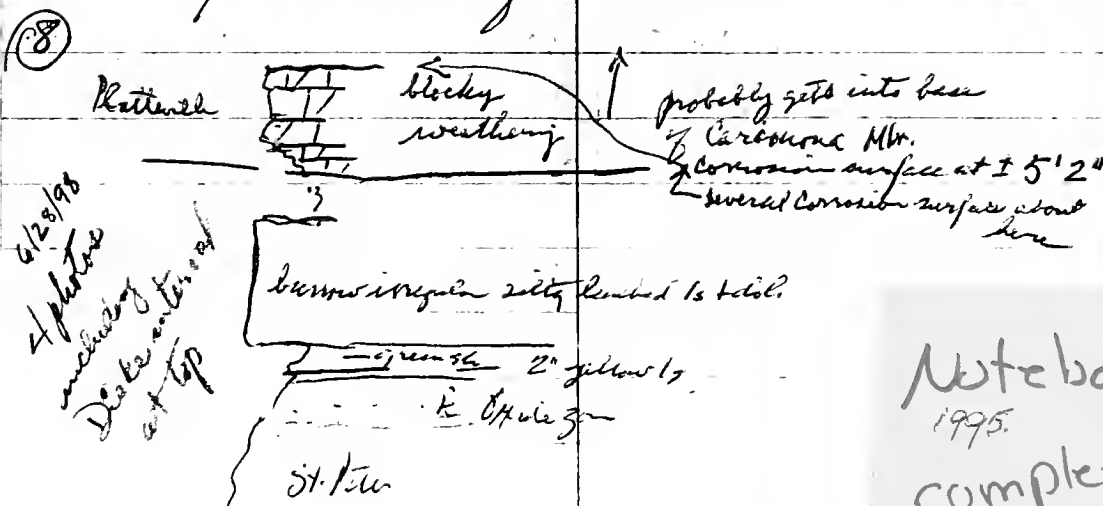
5/12/95

Kenyon is west on Minn. 60
near Zumbrota



5/14/95.

^{4 1/2} miles E of Chaffield on ^{MN} State Hwy 30, ^{then} roadway cut on State Hwy 74 - see section below). about 1/2 mile W of Troy. 1/2 mile W of junction of Hwy 30 & 74. (Maybe ^{4 1/2} miles from ? [See Sogn outcrop section for ref.] Chaffield)
Top of lower Glenwood shale is irregularly ~~un~~ covered by "Mifflin" nodular ls. Mifflin is thoroughly burrowed has fossil molds in a few beds. nodular limestone



Notebook 1
1995
completed

We then returned to Hwy 30 & east to Rushford. At Rushford village we stopped at Conoco Station

Took Hwy 43 south to Mahel, then Hwy 44 east to Spring Grove. About 3 miles W. of Spring Grove, there are 2 working

5/14/75

quarries, 1 on each side of Hwy 44. See Fig 2011
- topographic map (QA) (2 gauges)

Spring Grove X, south side of Hwy
Coll. Bay. 5/14/95/A; float in Decorah Sh
Roll 2. 2 B+W photos in X on S side of Hwy 44
2 B+W photos #19+20 in X on N side
of Hwy 44

(9b) X S. side of Hwy 44 (tailings)
Scree slope shows numerous
brachiopods - a shell hash
in calcarenite. Fine calcilutite
below calcarenite. 3"-4" diam
orthocerid mollusc; trilobites

(9c) X N. side Hwy 44
late ledges (v. thin) 2"-3" - not v.
persistent from lower $\frac{1}{3}$ to bottom
of upper $\frac{1}{3}$ of Decorah Shale.
v. dark grey to brownish black band
1 ft plus thick of shale with shell
hash here & there at top of it.
Pyrite & shell hash of brachiopods.
This suggests a sudden deepening
event creating anoxic shale
environment.

lower than change in the 12/20/75

5/14/95. Kendallville, Iowa

East side of road

- (10) X N. of Kendallville on Upper Iowa R.
loc. 17. Heverson, Gerk & Broadhead, 1979.
B & W photo. Just before bridge over
river.

large gastropod at top of Sinsinawa Mbr
& burrowed (extensively)

Pavlovic X, north bank of Upper Iowa R. at
Kendallville, Iowa. ~~SW 1/4 NE 1/4~~ sec. 33, T 100 N,
R 10 W. Sinsinawa 6'10"; Stewartville 35'10";
Dubuque Fm 19'1" Ripley Hill Mbr

See Heverson, Gerk & Broadhead

- (11) loc 33. X 3 miles SE of Kendallville, Iowa. Cattle Cr.
2 B & W photos. X at small stream on N
side of rd. SW 1/4 SE 1/4 Sec. 1, T. 99 N, R 10 W. limestone
1 fairly substantial late 2-ft made
up of 2-3 "beds" — busted up into
pieces — is coming in & appears in
section of Maquoketa Fm at top of X
Stewartville Fm 16'11"; Dubuque Fm 34'5" &
Maquoketa Fm 17'3"
Saw violets in bloom

5/14/95

US 52 N of Decatur, Twin Springs Rd.
^{Tall} Bluff faces on road on both sides
1/2 mile N of junction w/ Hwy 9. All
Stewartville Fm. Impressive "gateway"
to the city of Decatur with

We took St. Hwy 139 south from Kendallville
looked at X on Cattle Creek Road, then
rejoined Hwy 139 which led to Hwy 9
which took us to Decatur, Iowa
MacDonald's (+ Walmart) not far
from intersection of US 52 + St. Hwy 9.

5/14/95

Leverson, Gerk & Broadhead, loc. 9

Road cuts Iowa Hwy. 9, 7 miles SE of
Decorah, Iowa, SW $\frac{1}{4}$, SW $\frac{1}{4}$ Sec. 4 + NW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 9

3 B & W photos } T97N, R7W.
3 CS photos }

because rain came out

(13) loc. 9. 1 B & W photo; 1 C.S. photo.

Packages of rocks become thinner &
less blocky; also more shale coming
in at upper 20 ft. See Leverson & Gerk
(1972 Iowa Acad. Sci., Fig. 2) - we agree
with graphic sect. for Dubuque here + at loc. 10.

We 1st visited this locality then loc. 9.
Leverson, Gerk & Broadhead loc. 10.

> gate was locked, but CR walking
down road to (12) loc. 10. ~~Loc. 10~~ ^{Loc. 10} ~~3 1/2 miles SE~~ ^{3 1/2 miles SE}
of Decorah. $\frac{3}{4}$ mile E. of Decorah. \rightarrow
Single lane bridge crosses stream
X on S side of ~~main~~ road & east side
of creek. 12" shaly bed is well seen at both 9+10 and
at 10 to 12' below Dubuque Maquoketa contact. (See L, G, & B, 1979)

Both locs 9 & 10 are comparable
in what they show. We don't think
Dubuque fm is as thick as 34 ft. but
only ca 20 ft. - but exposure is
limited (also see L, G, & B, 1979 use a "marker" bed ^{which is usually} ~~12" shaly bed~~
lower than change into the ls/sh pattern typical of the Dubuque.)

thinner
looked thinner
why it looked thinner

Loc. 10 (cont'd) NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 9, T97N,

R. 8 W. Stewartville Fm 17' 10". Dubuque 34' $\frac{7}{8}$ "

Maquoketa contact

5/14/95

Pottsville

Passed Pottsville X, 2 1/2 miles N. of Pottsville (saw from distance) X east side of road; late afternoon sun showed "golden" X face.

1979

See Leverson, Gerb + Broadhead, loc. 53, X 4 1/2 miles NE of Pottsville, Iowa, NW 1/4 SE 1/4, Sec. 19, T96N, R. 5W. Stewartville 18' 5"; Dubuque Fm 32' 3"
Fm

(14) Church Street, Luana. X 1/2 mile N. of town on west side of road. Lea's X NW 1/4 SE 1/4, sec. 5,

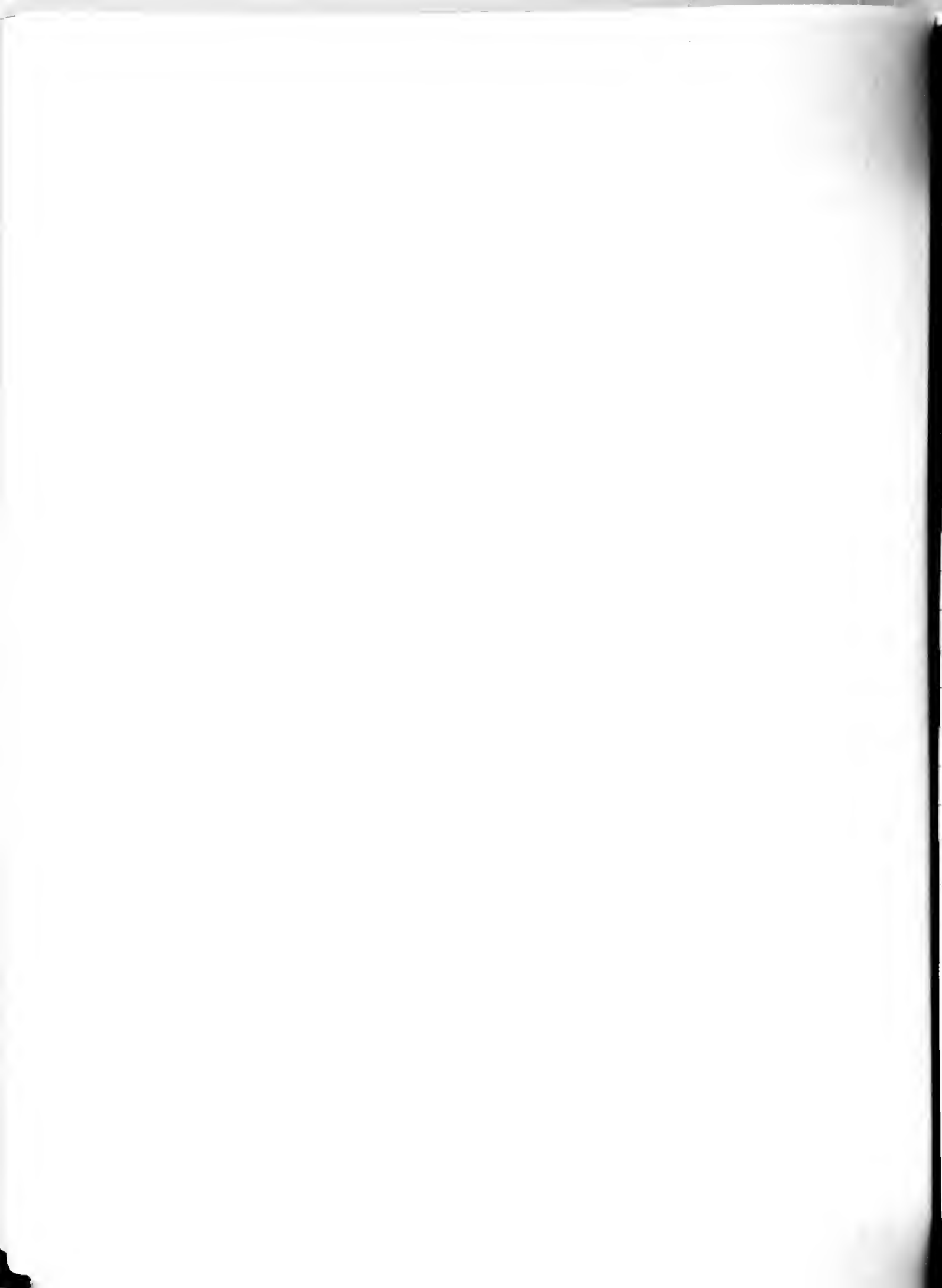
2 B+W photos T95N, R. 5W. Stewartville

2? CS photos Fm. 17' 2"; Dubuque, 33' 4"; Magnolia 17' 3"

A set of beds, identified by thin shaly bands at top and base ($\pm 9-10'$) is very burrowed, and the burrows filled with more silty carbonate. Swallows have been able to excavate these old burrows for their nests.

Leverson, Gerb + Broadhead, no. 45.

Red gum in bloom. 1 tree opp. Motel 6 on side of street. We are on Dodge St (= US 20)
Supper clubs. Swallows in late joints



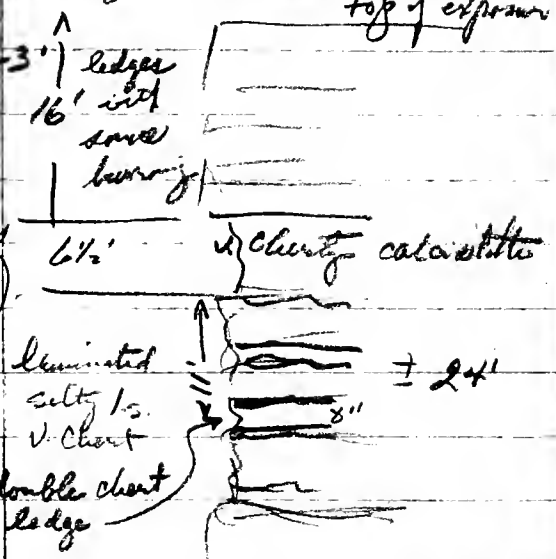
5/15/95. Dubuque, Iowa.

Left Motel 6 at 1:15pm after reviewing field notes & locality data. Decided to stay another night (through Tuesday night) we'll take in Illinois locality by radiating from Dubuque. Took US 20 west to Dyersville, then Co. Rd. 136 through New Vienna to Luxemburg; turned W on State Rd 34 headed toward Colchester then on toward Edgewood

5/15/95

Section just west of Twin Bridges Park - top of exposure

(14) Twin Bridges Park
 Ca. 6 miles East of
 Coleburg, Iowa on
 State Highway 3 (3-3.5 miles
 E. of junction with St. Hwy 38)
 Tried to find this on L+G '72
 and think it is their
 Dunloth, top of Sherwood
 Member. (Chert sequence 3)
 Member



Almost 6 miles east of
 Kolgewood, S.P.S. ± 20'
 Rifle Hill Mbr
 of Stewartville Fm
 crosswork pattern
 of Thalassonoides
 burrows
 base of road cut

Massive weathered
 barrowed
 25' -
 some CS and
 vague outlines
 of 1/2-2" laminae

(15) Clayton intersection of County Rd 21, Littleport Rd, starts at
 bridge over river & extends 2 mile up
 hill. Exposures on both sides of road.
 Loc. 57, Levenson, Gersh & Broadhead (1979)
 Littleport Roadcut. S 1/4, Sec. 25, T 92N, R 5W. Redoubt Fm. 33' 7"
 with Maquoketa Fm contact above & Stewartville

5/15/95

contact below. The lowest shale parting
of Templeton & Wilman (1963) is 7'3"
below the base of the marker bed.
(L., G. & B. 1979 p. 64).

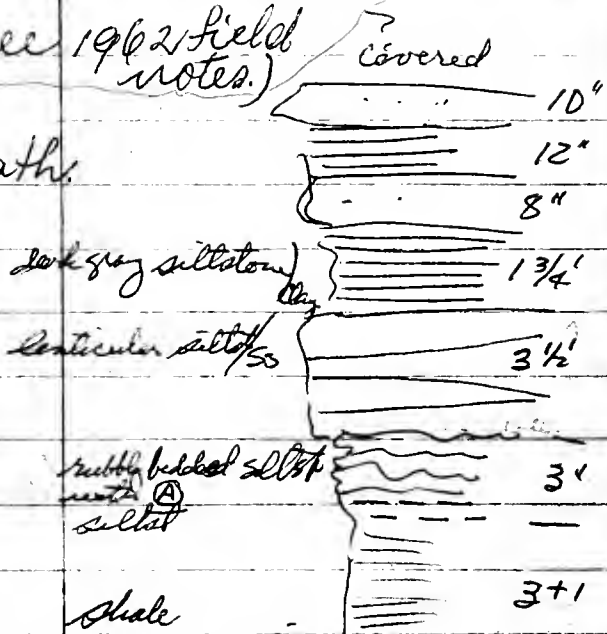
4 photos B & W coming down hill
starting in Maquoketa Fm.

(at Volga, the Elgin Mbr. of
Maquoketa Fm in creek bottom

Violets & mauve flowers

5/15/95

(17) Section on road immediately S of Grafton
 W side of road. Algd railroad bed has been
 Photos - 2 B/W 1/100 at f.4 Iowa, been
 Dubuque Co. (see 1962 field notes.)
 converted to a
 gravelled bike path.



Float
 Col. 5/15/95A

A. *Orthisceroids*
 solitary corals
 encrusting bryozo.
 brachiopods

rubbly bedded siltstone
 with A
 siltstone

shale
 with Gryptohites B

Poliothoceras sociale *Calymene*?

From Grafton to intersection, then east
 to Twin Springs Cr - road section on W
 side was noted

CK thinks this is Ten Mbrs of Decatur Fm

See Harrison & Gerk (1972 p. 113? chart, fig. 1)
 but ???

This is lower part of Maquoketa
 Fm just above Depauperate Zone
 RS

5/15/95 (18) Becker Quarry - Asbury, Iowa 5/15/95

Magnekta (prom. exposed)

Little Port

Luana

Frankville

total 34'9" Dubuque
porosity zone here

2" sh

13'3"

Frankville

a lower band "rock-marked" marker bed of L. + G 7 1/2"
- v. distinctive internal (minicaves)
& then a few inches v. distinctive band of Sturteville
up another one
(L, G, & B, 1979 p. 62, p. 64 (loc. 58))

loc. 58, Leverson, Gerk & Broadhead (1979 p. 64) "Dubuque reference locality", north side of Kaymann Avenue, just before intersection with N. Grandview

We were not able to walk to face of quarry

lilac just beginning to bloom.

... many & magnekte from south side

5/16/95

(19)

Dubuque. Corner of Horas Blvd + Cox St.
loc. 51. Dubuque type locality - abandoned
X north side of Horas Blvd at Cox St.
intersection. SW 1/4 sec 24, T89N, R3E.
Upper 21' 9" of Dubuque Fm. with
Maquoketa contact. X has been partly
filled for a parking lot acc. to
Hoverson, Gerb & Breadhead, 1978
loc. 51. 1 B + W photo.

We couldn't see Maquoketa Fm.
Beds rippled above clay. Beds 8-10"
acc. to depth of burrowing.
There are shales up to a couple inches
- the shales ~~come~~ thicken & thin
knowing of deposition ??? -
a lot of silt in part due to extensive
burrowing. "Pockmarks" extensive in
lower half of X.
North Dakota College Alumni Campus
Center is a new bldg so Maquoketa
Fm prob. removed in bldg this structure.
Note US20 (Dodge St. is being
widened & there is considerable construction)
(20) 1/2 mile W of Devon St + Dodge St (US20)
intersection. Road cut N side of Dodge St
shows upper part of Dubuque Fm with a

(20) is across from Motel 6 at
Rushville

(20) ~~could~~ (old road cut)
5/16/95 possible marker bed ^{close} to
base of section. (L, G & B, 1979, loc. 51)

(21) X on east side of U.S. 52, ca 1 ^{1 1/2} mile from
junction of U.S. 52 & ~~Old~~ U.S. 61. Tohigafrie
X. Dubuque Fm & underlying ^{top of} Skutumpah
Fm. 1 B & W photo

100 yards south on U.S. 52 to Old Massey
Road; turned into southern entrance
of X (v. gullied road in X) where we
were at top of Dubuque Fm & weathered
Maquoketa Fm slope. 1 B & W photo.

Long grade of road U.S. 52 into St. Donatus
from north. Extensive weathered
road cut.

Various roadcuts on U.S. 52 into
Bellevue. Gas at Conoco, N end of Bellevue
hunch at Wagner's S end of Bellevue
Bellevue State park at top of hill. High
massive bluff at top of hill of Siln, dolomite.

(22) Maquoketa Fm bottom is covered &
we could see v. v. little of it. Overlying
unit is Siln Hopkinton Fm
& lower part is a v. shaly silty
dolomitic siltstone (see Cross 1966?)

5/16/95.

Co. Rd 234 to Preston, then Iowa Hwy 64 ^{west} to
Maquoketa
Then ~~on Hwy 61~~ ^{US 61} north to Dubuque

← 5/16/95/SCB Sparry calcite from Dubuque ^{from}

- (23) (21) Opposite our motel, Dubuque Iowa
Maquoketa Drive & US 61. Bldg construction
site. (Called locally ~~leat port~~ ^{Key West Port})
Heavy equipment businesses
Extensive weathered shallow
slope with 1 float of iron-replaced ~~basalt~~
Ironstone in upper/middle part
~~to~~ dark brownish grey at
bottom (6'-8' thick) overlain by
3-4 ft of lighter grey shale.
There was evidence of fossiliferous
material (not recognizable fossils)

5/16/95.

ca 2 1/2" diameter
(20) contd. large chunks of sparry
calcite from about 3 ft near
top; prob. below Magnolia Fm
contact Coll. 5/16/95/H.

US Hwy 61 east from Dubuque into
Wisconsin. Excellent roadcut
from Mississippi R up hill
to east.

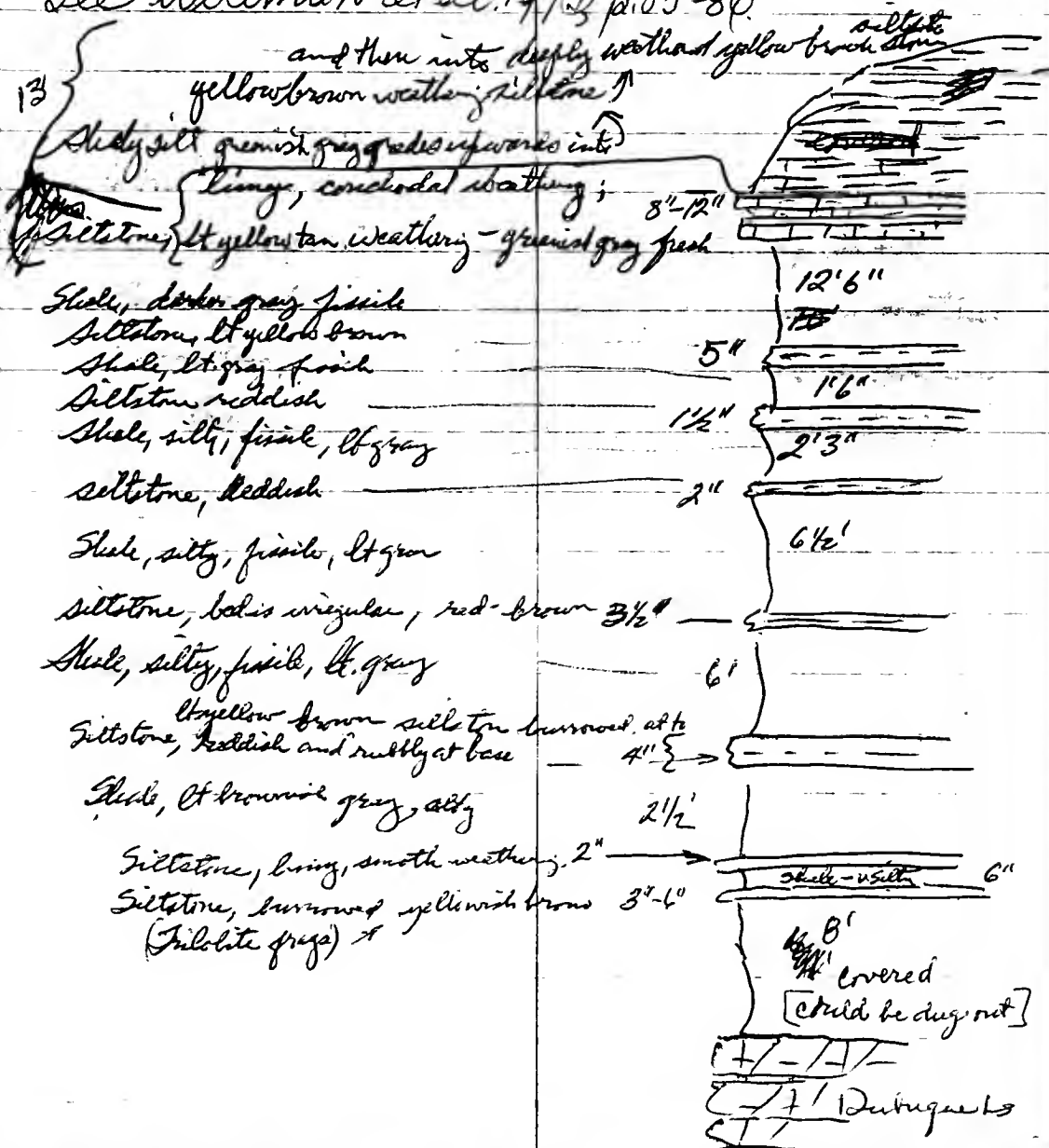
Redwing blackbirds

5/17/95

of railroad crossing

In railroad cut at Scales Mound, 1/2 mile E of
 left Dubuque via US20 to Galena
 (coffee stop) then Stagecoach Trail to
 Scales Mound. Photo 1 B & W. (24A)

See Willman et al. 1975 p. 85-86



5/17/95 (24B) Upper part of scales Ten about ^{miles} S/E of

Scales Mound on railroad cut. photo 1-B/W.

on RR tracks & 1-B+W photo from top (edge of road) looking down on 2-B cut

Silty shale, lt greenish gray in 2 to 3" beds and regularly interbedded with

Siltstone, very shaly in 2 to 4" beds. - There are at least 22 cycles of these two lithologies regularly repeated through about 14' of exposure above debris that covers base of cut, i.e. about 8 or 9' not seen at base of cut above railway level

Some surfaces have fragments ("flattened") of organic material (something like a flattened "grass"). Worm burrows in siltstone pieces, Trilobite frags. (? Isotelites?)

limy Slightly limy (limy?) bed about 4' down from top of exposure with gray appearance on one surface (? top surface) 1/2" ripple casts about 2' wide

nodules in some pieces. Bands of pyrite nodules in some beds -

Question (?) could the upper part of this railroad cut be as high as NW Illinois facies of H. Atchinson? 3

Could the 22 cycles (or thereabouts) correlate with the cyclicity in the Cincinnati area

5/17/95. Dubuque US20 to Galena
to Scales Mound on Stage ~~Coach~~ Coach
Trail. Then after looking at Scales
Mound area, we took road to
Apple R. Canyon St. Park - road closed
to Apple R. Canyon. Went south to
Mt. Carroll, Brookville, Polo, Dixon
to Mendota

US 51 to Bloomington & I 74 to
Urbana. Arrived in rain

5/18/95.

Urbana Illinois - visited university
Took Interstate 74 to Indianapolis ^{through} Logansport
Dayton, Ohio. The Motel is ca 9 miles
N of Dayton. It rained heavily from
just east of Urbana.

Stopped at rest area / tourist
information centers at W. entrance
to Indiana & also Ohio.

5/19/95 West of Camden, Ohio

Dayton, Ohio. Visited Wright State Univ.
library & ~~re~~reproduced 4 articles on U. Ord,
stratigraphy.

- (25) West of Camden on Route 725 on old abandoned Rte
725, 1/4 mile W. of bridge on West side of creek
Excellent exposures in east side of creek
Peeble Co, Ohio

Shale w/ some ls.

Noted on shelf ls. with thin silty interbeds



4'

Spiriferids, large other brachiopods, columnals,
corals, etc.

Abandoned

Road cut is now overgrown. Upper part of
shale w. some late ledges is a nice cut
for a house on N side of road.

* 5/19/95 A through G.

Creek name of creek / river.

See 1963 field notes for location of 1995
coll. (6-11-63 AA+AB etc.)
ripple marks on late ledges throughout

Side creek comes in on W side of old
road - ~~strong~~ ^{main river} thin-bedded late

① 3 B+W photos at upper 3rd cut
4 B+W photos at bottom of creek
where extensive river bank section

5/19/95

Chris saw $2\frac{1}{2}$ foot diameter colony of samore kelp; branch diam ca $1\frac{1}{2}$ cm; no monticules. This was a huge float block in river bed at bottom of creek, just upstream from bridge ("new" bridge). Old bridge has been removed.

We took some float samples to see if they approximated to collection sites in 1963 so we would have an orientation on where we were in old road cut section. Coll. 5/19/95A-F. Coll. 5/19/95G was float in roadway gravel.

(late) is a bluish-green-grey; v. nodular bedding; v. diverse fauna & extensive burrowing. At bottom of creek, (late) more thickly bedded incl. calcarenite bed of at least $1\frac{1}{2}$ feet.

Interstate 70 - 14 miles E. of Ohio line - massive
(late) - good road section

5/20/95

Left Engelwood/Dayton & headed west on Interstate 70. Took US 27 south through Richmond, Indiana, on 227 because of fire on US 27.

Good road cut w. good lste exposure - several sections along this road.

Rejoined US 27 before 227 splits off to east. Good exposure of shale & thin lste beds just S of Richmond on US 27. Could S to Liberty. Rd cut on Indiana 44 W. of town is grass covered; no exposures.

Gasoline at Liberty

This day we tried to trace Fox's (1962) sections & locations.

Union Co. Fox (1962)
5/20/95 2 miles ± west of Liberty Ind. on north side

(26) of Indiana 44, west of creek just west of
turn off to "Treaty line road" Very poorly
exposed road cut.

~~5/20/95~~ 5/20/95/E float from near above.
small brachiopod (float) → shale + siltstone
5/20/95/D with beds of
fossiliferous calcarenite facies.

float (5/20/95 C
fossil coll.

5/20/95/B "Tetradium"

with *Tetradium* & *Strophomena*
'stick' *Tropostoma* (float)
5/20/95/A

beds of 2" / 5
calcarenite
(mudstone) with
2-4" interbeds of
green calcarenite
± 12' seen

beds of 2"
fossiliferous calcarenite
with greenish gray
calcarenite (all fossils)
interbeds
15 to 19 feet seen

Site is also:
1 mile E of turn off to Runlapville
& Quakerstown State Park
upper part of Brookville, & lower part of Liberty
Fm

5/20/95 Ate lunch at stream edge.

We continued on Indiana 44 to
Connersville, then took (121) to meet US52
crossed US52 to take small
unnumbered road to Beena Vista.
"Rolling" roads but no exposures in
covered road sections; contd to
~~S. to~~ Hamburg & then east on
gravel road for \pm 2 miles to "bluff"
along N. side of valley.

Road cut on N. side of road
w. ledges of coarse fossil hash
(~~mainly~~ brachs) - calcarenite (6"-8"
ledges); sparry calcite
silty calcisiltite makes up some ledges.
Road cut is too weathered to put a
section together.

(27) Collection 5/20/95/F - float; middle part
of hiker's Fm. ~~E. Hamburg~~

5/20/95 Locality of Hay, Pope & Frey (1981)
Bonwell Hill, Indiana

1st road stop, 1 mile NE Brookville & $\frac{1}{4}$ mile east of road into dam spillway,
1 photo B+W liberty + top of Weynesville
cut on west side of road at top of exposure.

Indiana 101 road cut.
large bivalve ca 3" across, sharp radial ribbing

~~Proterozoic~~
Strange "calcified algal outline"
= hash of ~~bedding~~ - forms distinctive layer
perpendicular to bedding plane
(up on end) & weathering pattern

2 photos B+W $\frac{2}{3}$ of the way down cut
Hay, Pope & Frey unit 3A is ~~a~~ graded beds with iron oxide
stems, phosphatic (?) and now brown yellow weathering
top as spongy calc. concretions.

5/20/95/G. From "Excella" of Brookville
Fm. - from bottom; float

5/20/95/H. Float from prob. 2A of Hay
Pope & Frey.

5/20/95/J. Float Bed by weathering
from shale

5/20/95/K. Float from lower part of Unit 2A top of 1A
tiny silty shale

5/20/95.

K. { lower part

Bonwell Hill could

base of Liberty or top of

Waynesville

T. most likely came from top of

Waynesville

5/20/95.

turnoff

(29) Gass Hill. 1/2 mile N of road to Gass Hill
Marina. On next hill N across shallow
valley from Gass Hill (Note ~~N~~ side of Gass
Hill exposes similar).

3 B+W photos. 1st one lower part,
2nd one middle part & 3rd one upper
part of east side of road cut

Indiana 101 road cut

Loose bry. Coll 5/20/95/L. Slab had
free bry. weathering out from upper
beds of Brookville Fm. (Hay, Pope & Frey,
1981, p. 84, fig. 9)

5 ~~B~~ photos B+W

5/20/95/L. Bry. bed ^{-15ft} 12ft above
base of Whitewater Fm

5/20/95/M - some traps (large stems)

5/20/95/N - "Homotrypa" bed
2 collections

going
uphill 5/20/95/O - free specimens
- top of section? am not certain of
collection level.

5/20/95.

Note: Road section on US27, about
1 mile S. of city of Richmond city limits
(Thick etc) of thin lates + limy shales
20 ft.

5/21/95

Stop 1 (2:30pm) RR cut at north edge of

30 Wright Bros. Memorial Hill, Fairborn, Ohio.

2 B/W photos to S; 1 B/W photo of N. side.

Trues 5

Ledges of lt brown weathering limy siltstone/sandstone — 2-2 1/2'

includes a med. calcarenitic grainstone some burrowing platy bedding 1' gradate contact = lt tan gray

Shale, med. to light gray, v silty. ±25'

greenish gray

+ brown blue med gray

+ calcarenite

35. ferruginous, vuggy w/ opening col, molds filled with siltst. 51% = lt. granish gray

ledge at top is nearly planar. 4-5'

ls. ledges below are v. shaly & silty and poorly exposed. In fact this could be a

covered predominantly shaly interval →

with thin shaly ls. interbeds

±22'

includes green gray siltst

James says these are full of bryoz.

5/21/95-A = Homotrypa band at top = XH (about 6"-8" thick)
Homotrypa?

5/21/95-B = XB (Bythopora?) 2 collections

5/21/95-C = XMT (Mixed trepostomes)
2 collections

reposition in

5/21/95 General area of Fairborn, Ohio
of Ohio 235

(31) * N. side of road $\frac{1}{4}$ mile from
intersection of Interstate 675 & Ohio 235
Broad quarry shows:

Dolomite, uneven bedding, massive to
thin bedded, bihermal on places,
light gray - yellowish, whitish, color varies
on weathering

Shale, dark gray top; some 2' relief
reddish weathering; granish dolomite
from this interval.

Dolomite, lt. reddish brown weathering
4 to 6" beds,

Quarry floor is on a ^{mottled} green dolomite
12 ft unit + 15 ft unit

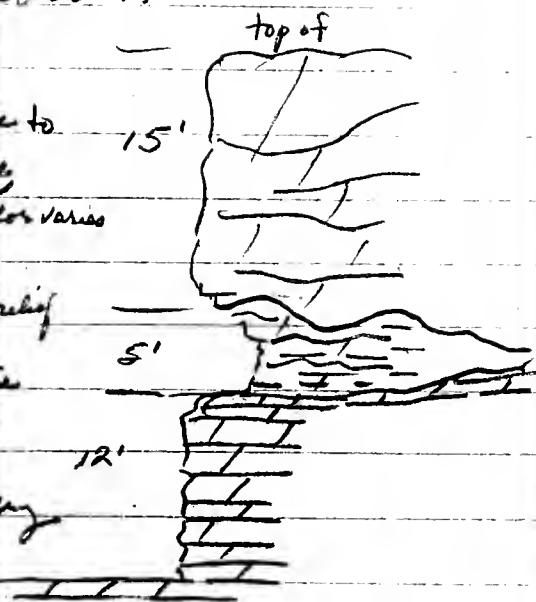
1 photo N side * showing no shale / silty shale

1 photo B & W of rock marked surface of * floor

Bisher Fm is rock-marked & burrowed.

2 photos B & W east side of * showing
5 ft shale "lens"

Amer. Aggregates Inc. Fairborn Lignite Plant



5/22/95

Finished packing samples.
About 11:30am took samples to LepSat
1308 Brandt Pike, E. Area of Dayton.
Went P.O. about 1½ miles further ~~or~~ along
of Ohio 201. Sent postcard to Rick & Barb Cen

Hamburgers at Riverside near Interstate
675. Then took I 675 to meet US ~~52~~ 35
US 35 to Xenia then back through
Xenia & picked up Ohio 380 south &
after several attempts stopped at
Caesar Creek State Park information
centre. Here we obtained maps

3 B + W photos at Spillway

5/22/95 (32) Holland (1993) locality
Caesar Lake Spillway (4 tail)

Spillway section of Holland 1993; saw about 27'± of
limestone and siltstone with numerous bryoz., brachs.

and burrows. Some ^{ls.} beds have wavy bedded lower
surfaces, some ^{ls.} have wavy bedded upper surfaces,
some have bot. ls. = limestone as base

conchoidal fracture truncated by ^{ls.} can only
be traced for abt. *Herbertella* sp. but they are
truncated by ripple solitary corals and bryozoans

in general, smaller ones near base of section, &
several species; larger "Homotrypa" are extensive
near top. "Pectons", *Herbertella* sp., large solitary corals
common. These have a cyclicity of 2' to 5' of

v. silty ^{and all stone} ls. and ^{ls.} thinner siltstones.

"Several" collections There are 6 or 7 (check photos) of
these cycles which are more silty in the lower 1 or 2
and then become less silty upwards.

3 collections

5/22/95/A - float from ^E wall of
spillway (walked across flat)

5/22/95/B - N side of roadway
float

5/22/95/C - on top of road in
place.

Same units as at Wright Bros. Mem. Hill RR
- no red weathered zone. Ditch is below this cut

5/22/95 (32) Holland (1993) locality
Caesar Lake Spillway (4 tail)

Spillway section of Holland 1993; saw about 27'± of
limestone and siltstone with numerous bryoz., brachs.

and burrows. Some ^{ls} beds have wavy bedded lower
surfaces, some ^{ls} have wavy bedded upper surfaces,
some have both. One or two beds have

conchoidal fracture, 2" to 5"± thick, these can only
be traced for about 30 to 40 yards before they are

truncated by ripple surfaces. Two kinds of bryozoans
in general, smaller ones near base of section, &

several specific; larger "Homotrypa" are extensive
near top. "Doctons", Habertella sp., large solidary corals

common. These have a cyclicity of 2' to 5' of

1. silty ^{and silty} ls. and ^{ls.} & thinner siltstone.

"Several" collections There are 6 or 7 (check photos) of
these cycles which are more silty in the lower 1 or 2
and then become less silty upwards.

3 collections

5/22/95/A - float from ^E wall of
spillway (walked across flat)

5/22/95/B - N side of roadway
float

5/22/95/C - on top of road in
place.

Same units as at Wright Bros. Mem. Hill RR
- no red weathered zone. Dict is below this cut

5/22/95. (33) Caesar Lake Dam at Spillway
Lower section at Dam outlet. (Held)

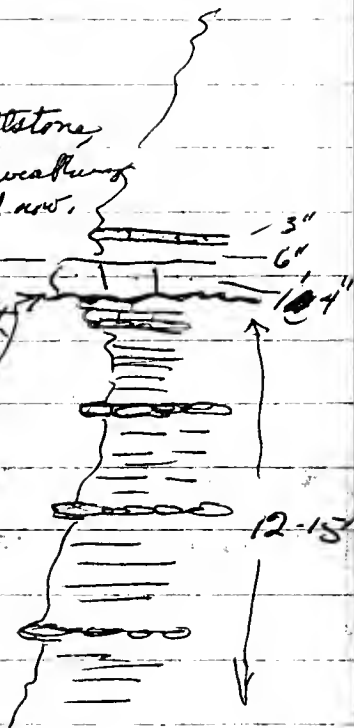
Calcareous shell frags about $\frac{1}{4}$ " max dimension. Spang calc cement with some reddish weathering

Cycles of nodular ls. 2"-3" thick and liny shale (dark gray) and very thin ls. Cycles about 3 to 5' thick

Byzozona present, but are small and fragmentary in these thin limestones

2 B+W photos.

Collections
5/22/95/A float
Cr visited this - "wet shoes"



5/22/95

Left Cascade's Ch State Park at/near
Harveyburg went to Cowan then west to
Waynesville (very much titivated tourist
town); cone + hamburger here. Then took
In exiting at Waynesville we saw our
1963 road section, which for the most
part is overgrown, then to "coffee" break
stop above.

Drove to Lebanon + then Clarksville
explored several roads + did not find
suitable sections

Took Hwy 350 east to Hwy 730 +
then turned north on Hwy 730 about
1 mile to Cowan Lake Spillway + Dam
1 E + W photo at Spillway

Can't read
titivated

5/22/95

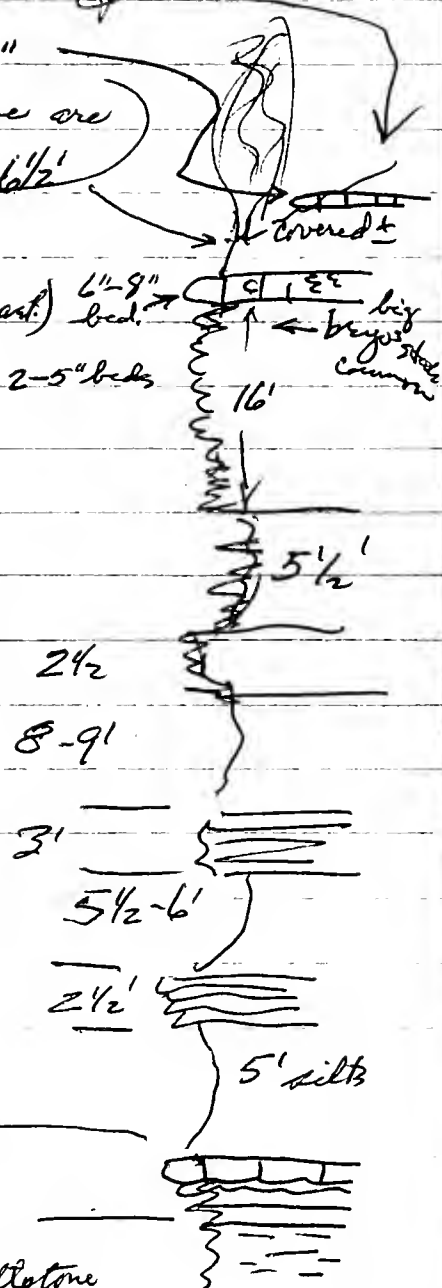
(34) Cowan Lake Spillway

Glacial till above
Coarse calcarenite granitoid - 10" to 12"
brownish yellowish tan silts above are
weathered and not exposed as beds. 6 1/2'

Calcarenite, spang calc. cement,

orangeish red upper surface is sandy (Quart.) 6"-9" bed.

that thickens down into burrows 2-5" beds



Calcarenite packstone, fossil 3" to 5" beds
with thin interbeds of siltstone.
brigs + brachs.

Pelecypod (Pecten) brachs (Ref) 4'
only rare brigs

(fishermen state maintenance personnel
picked up road signs)

5/22/95

From Cowan Lake Spillway we took Hwy 730 to Blanchester, then Ohio 28 to Mulberry (driving through town) then I 275 to exit for Ohio 125 where motel is located

All the mowed "lawns" & street right-of-ways.

5/23/95.

Motel reservation Cincinnati, East
3960 Nine Mile Road. \$33.34. Motel SE Int. I-275
+ Ohio 125

Travelled on I-275 to Ohio 321 and stopped
at 2nd Batavia exit at Bauer Road.

(Hay, Pope & Fry, 1981 - Batavia, Stop 1.

Lower stop (Stop 1 of H, P, + F) Kope fm
(on ramp to highway)

siltstone w/ a few thin calcarenite siltstone

4" ripples

5/23/95 B

Calcaremite,
Calcaremite siltstone, burrowed
Calcaremite, grainstone/packstone massive

Calcaremite, ferruginous weathering - top is almost glass.
Bas. is silty & gradated

Siltstone, lmy shaly sandy

Packstone, bryos + brachs

5/23/95 A

Brachiopod, grainstone/packst. brown stained Fe_2O_3
granulalae

Crinoid bed - surface is a columnal prominent

some fine winnowed calcarenite

Siltstone, gray, tan weathering, lmy, burrowed

cont. →

12'

2 1/4'

1"

2 1/2'

2 1/2'

1 1/4"

4 1/2'

2 1/2'

4 1/2'

1'

10 1/2'

8"

4"

3'

20'

South side of road cut →

North side of road cut →

Road ditch

5/23/95. Hay, Pope & Frey (1989)

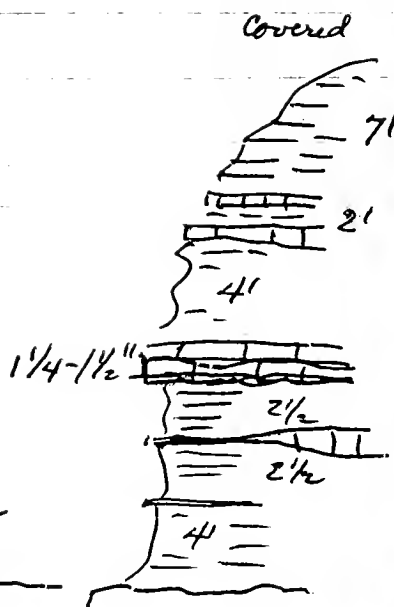
More brachiopods

Continued from
previous page.

Calcareonites

Siltstone w a few thin calcareonites - these
thicker & thin on outcrop
Calcareonites ferruginous ls

Continued



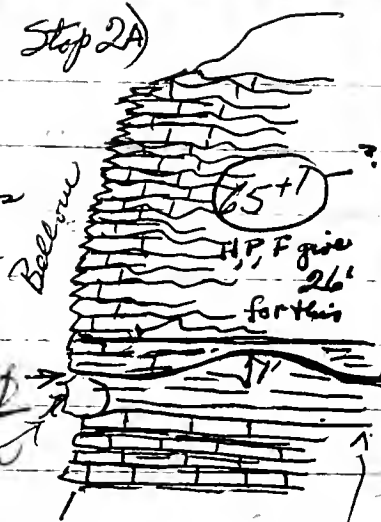
5/23/95. (Hay, Pope & Frey, 1981 Step 2A)

LS, 1"-3" wavy beds, and interbedded
dark gray siltstone, large brachiopods
common, 5/23/95/C Floor

Massive calc. siltstone bed. 1 1/2' +
from uppermost 30' +
prominent large scale ripple bed surf.

Shale/siltstone 2-2 1/2' - Miami limestone
shale.

LS. ledges, 2 1/2" - 4" thick, wavy,
setty, burrowed, ferruginous.
bedding is relatively even,
generally poorly exposed.



part of section

Photo B & W shown by blue ink band
photo taken, however, of No face to get sunlight

5/23/95/C - monticulose, flat broad colonies
that are 2-3" broad & 1/2" thick

Road cut section along Ohio st 32
on southern side

monticulose stems and

5/23/95 "Excello" Mbr. of "Brookville" Fm. on Ohio 132 at
 (37) Filagar Rd about 3/4 mile NE of 132 junction w/122.
 (Hays, Pope & Frey, 1981. Stop 2B
 SW of east side of road cut.

Some beds with brachs & few bryos but
 the rocks are too silty for brachs & bryos.
 "Excello" mbr of "Brookville" Fm.

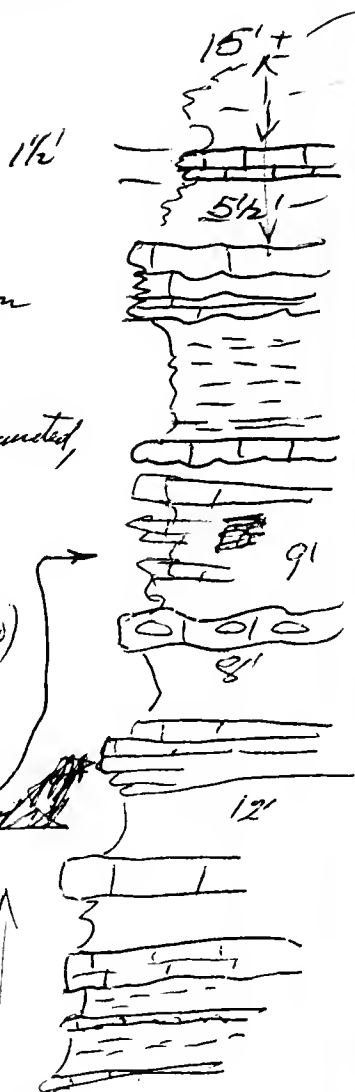
poorly exposed ledges of ls + siltstone

Siltstone, green, calc., burrowed, shells on
 some surfaces as "log" surfaces or as
 "colonization" surfaces; some well laminated,

Calc. with 2"-3" siltstone pebbles (picture B/W)

opposite 5/23/95 D
 Filagar Rd. (left)

Calc. siltstone, granish gray, burrowed
 and 2"-3" irregular ledges of
 calc. fossil ls. grainstone / packstone
 brachs & trich, & some bryos.



5/24/95 Took Ohio st 125 from ^{Withamsville} ~~Williamsdale~~

Ohio 125 road N + S of White Oak Creek; excellent long road cut sections. Holland (1993) lists this section 8 miles west of intersection US 68 + Ohio st 125 (12:15pm lunch \$1.47 at Georgetown)

(Posted 4 aereogrammes at Amelia P.O. to Herbert Holdsworth, Pat Holdsworth, Joan Rushworth + Rev. C. Tyndall re Mary's death) (See 19³ field 5/29/95. Chrow egg ^{SW} notes)

(38) Took US 68 N from Georgetown; ended up on Hammer Rd wh. intersected ~~Dean~~ Delhi - Anaheim Road which we took to Anaheim. Mailman to Edwards Rd (SE) of Anaheim about 3 miles S + E of Anaheim weathered late on N side - several discontinuous exposures; also ~~ex~~ lower part of section in small ck on E. side of ck (photo B + W of late ledge in creek) (large "strophomenids" almost 2" - 2 1/2" across flattened ~~late~~ siltstone; some ^{thin} late ledges (2' - 3" thick) On curve around hill after crossing

• 4 mile of section
small ch sp ch is on east side
we have lower "sparry calcite"
(red weathering soil) up at next
curve w. silty lime mudstone
w. many brachs & few bryoz
[2.5 miles S of bridge at Anheim
on Brounstown - Anheim Rd]
Hammer Rd then Trilicity Rd into Sardinia

Brounstown

5

8/24/95

Stop 5B, Hwy 190 & Hwy 32, near Beebles, Ohio
Kearney 1984
About 1 mile west of junction of 41 and 32 on
Highway 32. near Beebles, Ohio

(39)

2 B/W photos

Peebles dol. - light + v. light gray, some bands

"Transition" - burrowed, silt filled burrows
in a dol. - X bedded, gray calc. "heads" common

Lilly - upper part very shaly + silty, dark gray, 1/4" bedding, laminated appearance

Muddy, ledge forming siltstone near middle of shaly interval

dolomitic trans.

Dolomite, X bedding, massive,

silty partings

Lilly

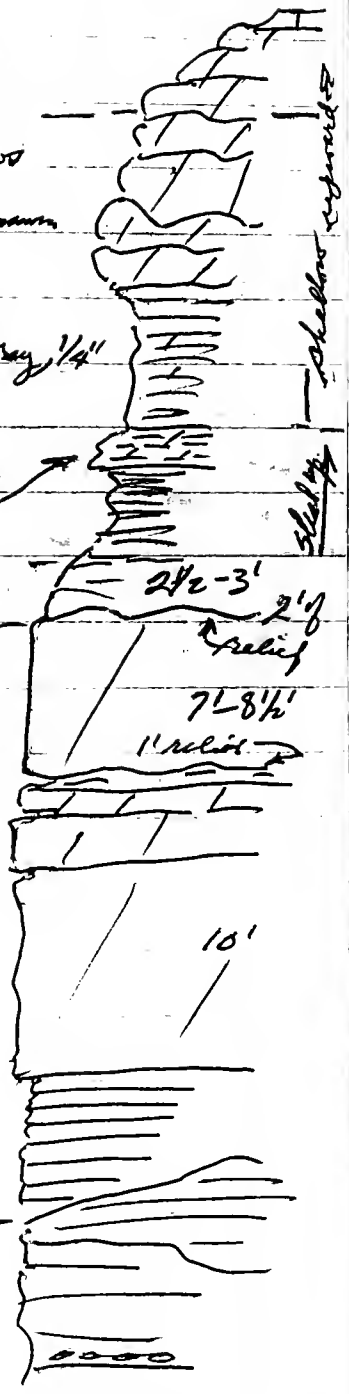
Dolost, X bedded, massive (beach?)

Dolost. sandy, + sandy silty dol.
2-4" beds (bars or fluvial)

2 1/2 - 3' cut + fill surfaces
(several)

Birken

silt pebble congl.
20' below top of
this unit



8/24/95

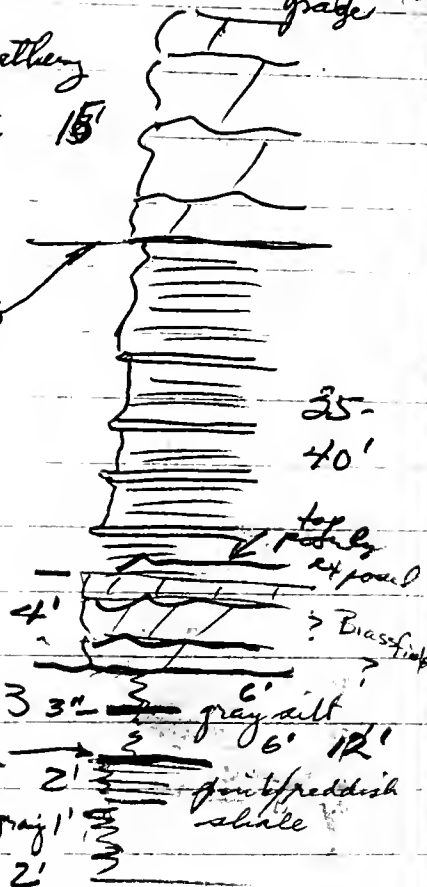
Bushy Dblst., very shaggy, ^{brown} orange weathering
burrowed, some fossil frags. 15'
siltst. pebbles common

Gray shale + siltstone poorly
exposed erosional sharp contact
check this!

(Cont.) from previous page

med. Gray shale with a few
1" limestone bands exposed in

gully on S. side of highway
pencil 1998 6/16/98



5/24/95 (40) Ohio St. ate 41 immediately
 S. of crossing of Ohio Branch
 Cr. 1.4 miles S. of Jacksonville, Ohio

slabby weathering Brassfield
 irregular weathering with
 shaly interbeds 50'±

Massive bed of Lower Brassfield
 with cleat and molds
 light colored shale

Belfast Bed - sandy siltstone, olive gray,
 barrowed (like Tulebas ss).

Red silty shales
 Calcareous with

sharp contact

road

10-12'

9'±

covered 12'

7'

Photo B+W West face of roadcut
 Coll. 5/24/95/A. Float a "base" of Belfast
 on ledge above road. 20-3" thick
 at Ohio Branch Creek, Stop 5.7
 Bessard & Kleffner, 1984, Field
 Guide GSA Ann. Mtg.

(41)

5/24/95

1/4 mile farther south on Highway 41

Sharp contact with lower Brassfield

Stebby siltstone

Massive siltstone

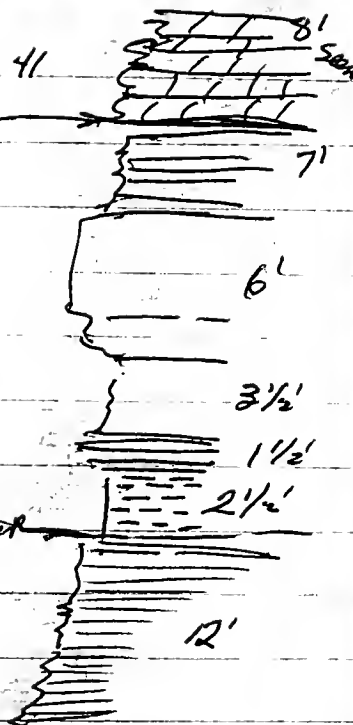
Bands of clay rich and salt rich clastics

Laminated siltstone

Massive, unbedded siltstone sharp contact

Red beds shale with limonite

Bands of calc. siltstone



2 B/W & 1 color photos of W. side of road

Road cut is

Immediately N of Murphree Ridge Rd
which enters from W side of Hwy 41

Took Ohio St Road 41 south to
West Union. Road cut exposures on
West side of road

5/24/95 (H2) (Holland loc.) 3.2 miles N of intersection of
 Ohio St. and 24th & 41. N of West Union
 Braasfield sh. contact on Ohio St. 41.

Holland indicated

3.2 miles N of intersection of

Ohio St. and 24th & 41. N of West Union

Braasfield sh. contact on Ohio St. 41.

dolomite
 burrowed calc. siltstone,

small solitary corals,
 crinoids, bryoz.

5/24/95 B

Calcareous/granstone

sandy

cross bedded in
 some beds.

at gray sh.

road
 level

calcareous granstone
 burrowed.

small crinoid bed

Need to work out Holland's strat. seq. graphs.

1 1/4'

2 1/2'

2 1/2'

22'

9 1/2'

A very hot day - 85°F - w. sun!!

5/25/95. Thursday.

V. heavy rain on Wed, night & Thurs morning. Car trunk leaked & part was wet. Needed sponges

Afternoon - took Ohio St road 125 to Georgetown. See Holland (1993-

Approach to Georgetown from west
W side White Oak Cr. (43)
covered

Ls 8" ledge at top of exposure

^{basal calcareous ls.}
Ledges of ls. and siltstone/shale

Coll. 5/25/95 A ^{float (see 5/23/95)}
resembl. wide broad sp. "potatochip"

Shale/silty with a few thin ls beds

Photo B & W

(float has "Lichneria" & "Refinequinia")
"pectinoid" brachio.

V. Thin bedded shale & limestone

Total 4 B & W photos to cover
whole etc.



5/25/95

East side of Whiteoak Creek valley
on Ohio St. Rd. 125. — in road cut, there
is a lot of late shale couplets below
the rock section exposed on west side of
Whiteoak Creek — see bottom of
this western exposure on the next
page

5/25/95. West side of Whiteoak Cr. (cont.) cont. ↓

Shale/siltstone with almost no thin ls. ? Miami Shale? or another slide? some "nodular" ls but very thin

ls. calcareous & silty.

ls, thin bedded 1" to 2" beds, with

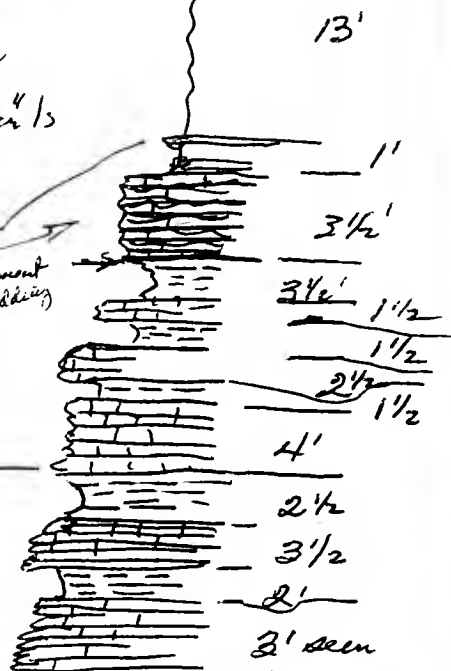
shaly/silty interbeds separated by 2'± more silty interval a vague cyclicity

ls. as above

about 12' to 15'



base of West road cut



base of West road cut

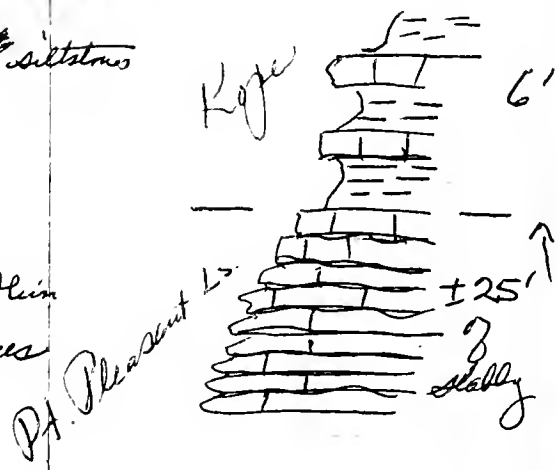
Total of base of cycles below lower shale. (see previous page)

44

5/25/95. Point Pleasant. Holland's loc.
 Turn off R.R. 52; stream exposure on N side
 a stop at about 1/2 mile west of Pt. Pleasant city limits. Creek exposure

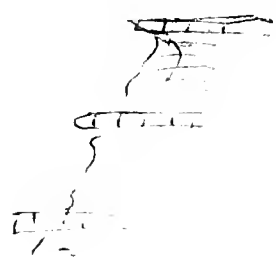
LS. ledges with 1' to 1 1/2' siltstones

Limestone - slabby -
 8" to 18" beds with thin
 siltstones - forms ledges
 in stream



Up private road to Quarry Creek lane
 exposure of late siltstone in NW side
 of access road about 20' above road
 two-thirds of the way up the hill

LS in 2"-3" ledges in a
 deeply weathered shale + brown
 siltstones



Coll. 5/25/95/B - float but prob. from a
 ledge right there.

